Ref.: Z32G6000

Service Manual

Vacuum Cleaner

MODELS MC-E455UK, MC-E456UK, MC-E457UK
MC-E455, MC-E456, MC-E457

■ SPECIFICATIONS

	MC-E455UK MC-E455	MC-E456UK MC-E456	MC-E457UK MC-E457
Power source	AC230 - 240V 50Hz	AC230-240V 50Hz	AC230 -240V 50Hz
Input power	900W	350 - 900W	450 - 1000W
Vacuum	14.2 kPa	14.2 kPa	15.5 kPa
Power cord length	6.5 m	6.5 m	6.5 m
Net weight	6 kg	6.1 kg	6.2 kg
Dimensions (W x L x H) mm	312 x 310 x 1050	312 x 310 x 1050	312 x 310 x 1050
Attachments :			
Dusting brush	•	•	•
Crevice nozzle	•	•	•
Extension wand	•	•	•

Specifications are subject to change without notice for further improvement.

Panasonic

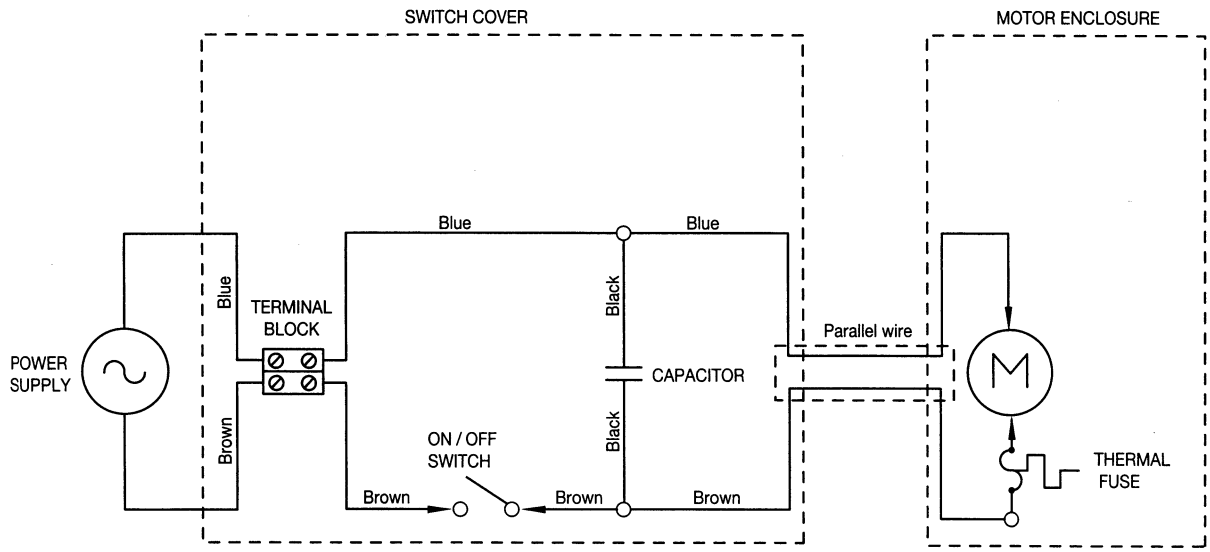
TABLE OF CONTENTS

PAGE

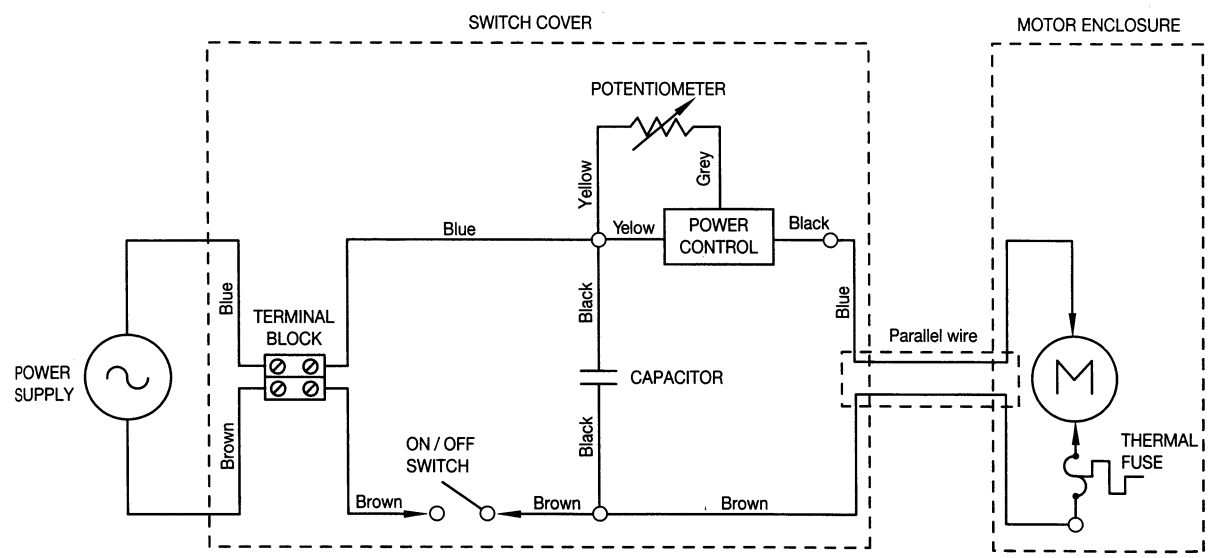
- SPECIFICATIONS 1
- SCHEMATIC DIAGRAM 2
- PICTORIAL WIRING DIAGRAM 4
- EXPLODED VIEW 6
- SPARE PARTS LIST 8
- REPLACEMENT OF MAIN PARTS 10
- TROUBLE SHOOTING GUIDE 15
- PACKING INSTRUCTIONS 16

■ SCHEMATIC DIAGRAM

MC-E455UK / MC-E455

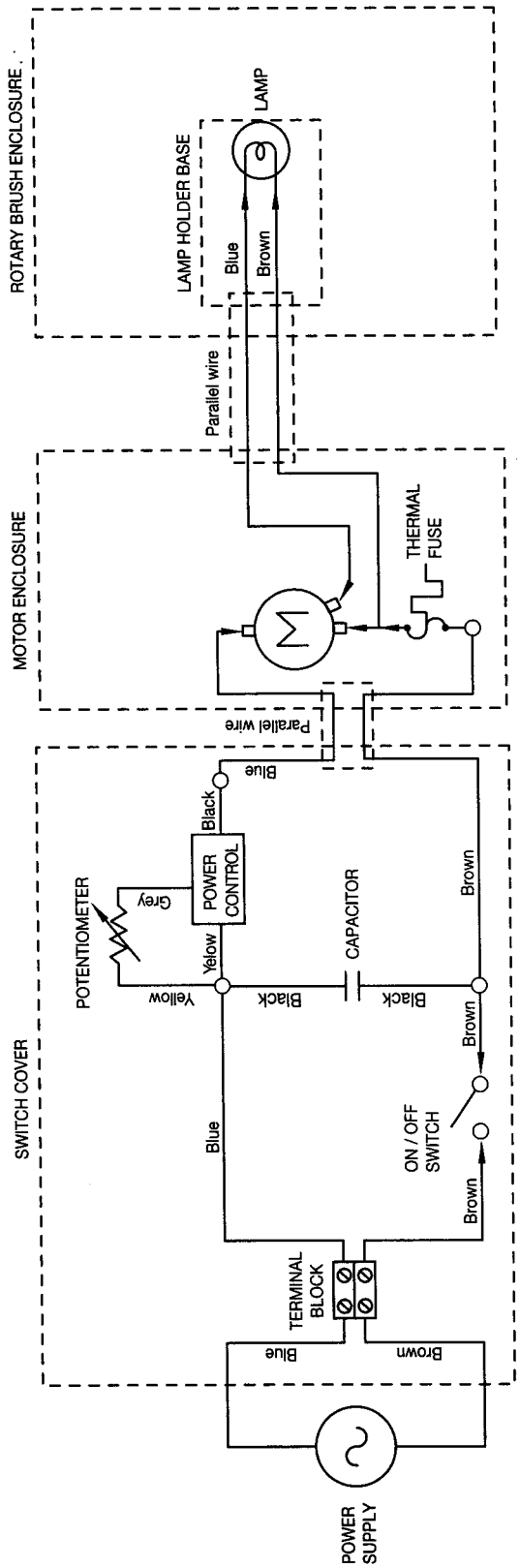


MC-E456UK / MC-E456



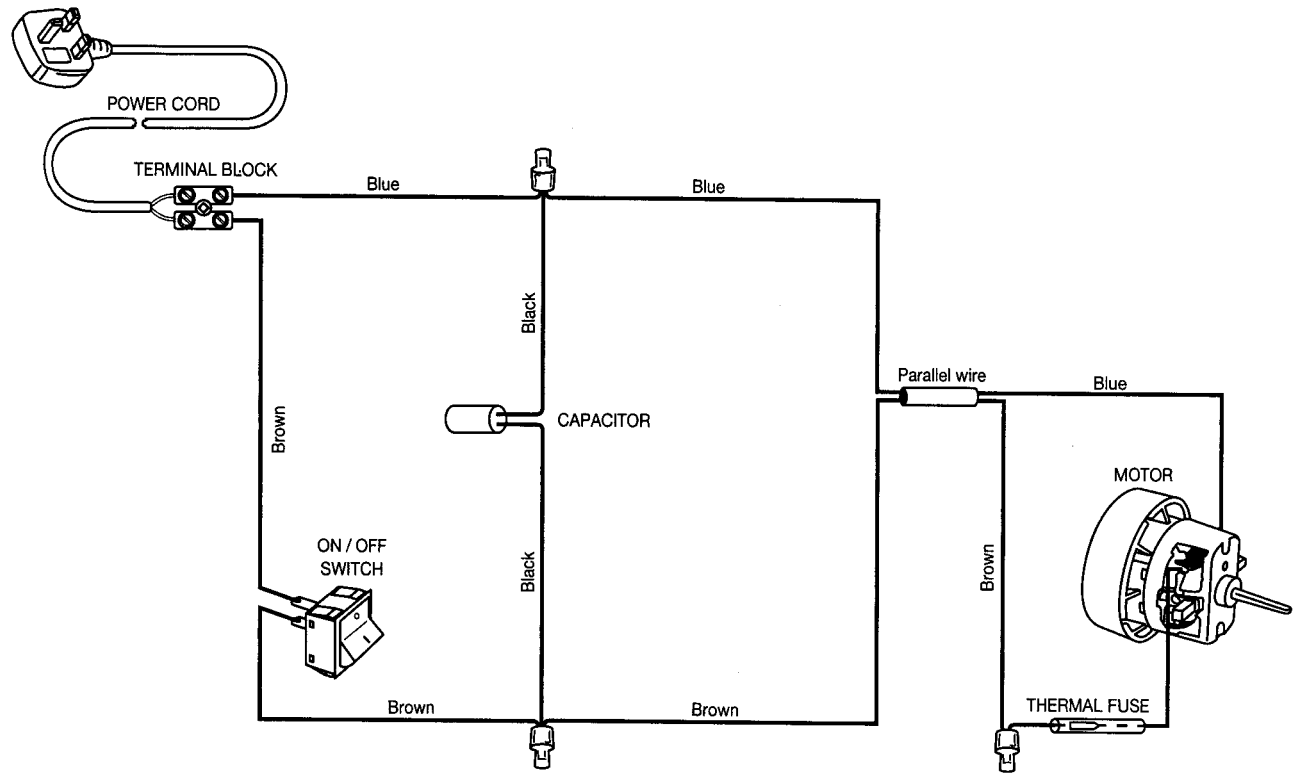
■ SCHEMATIC DIAGRAM

MC-E457UK / MC-E457

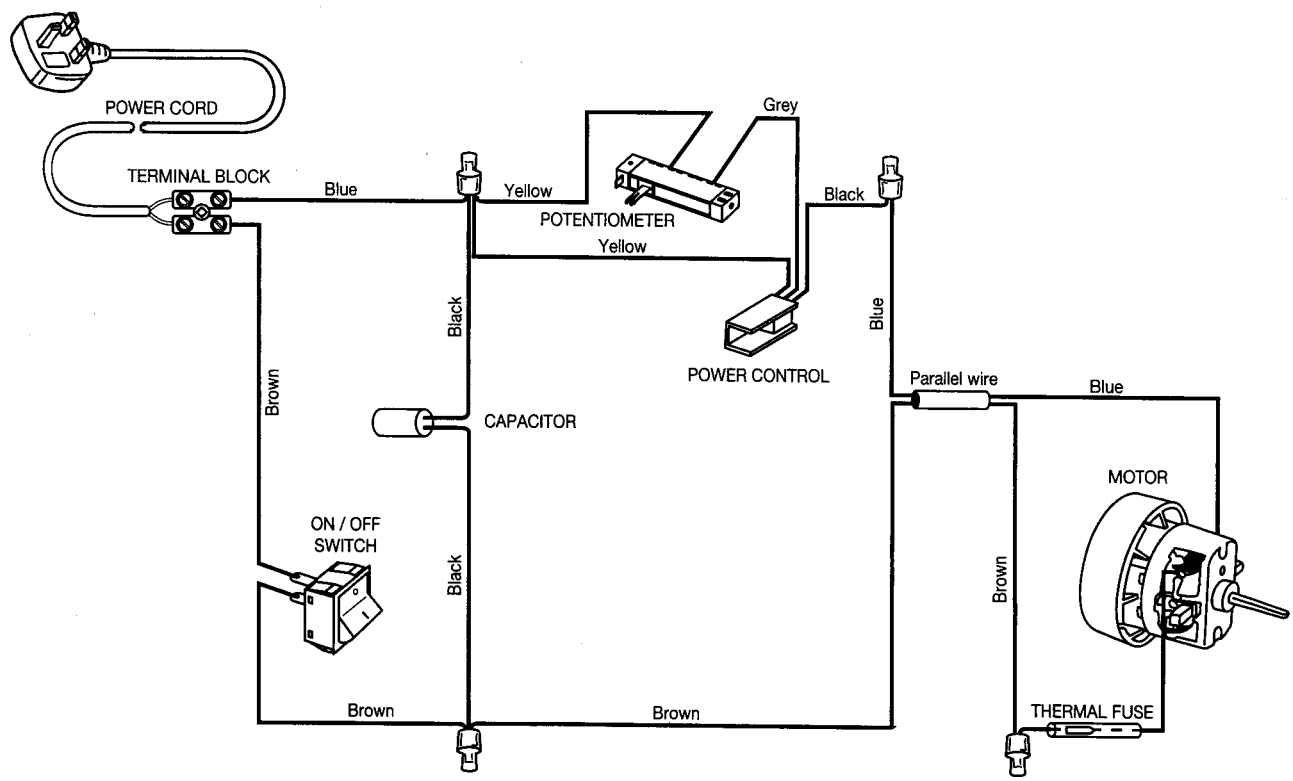


■ PICTORIAL WIRING DIAGRAM

MC-E455UK / MC-E455

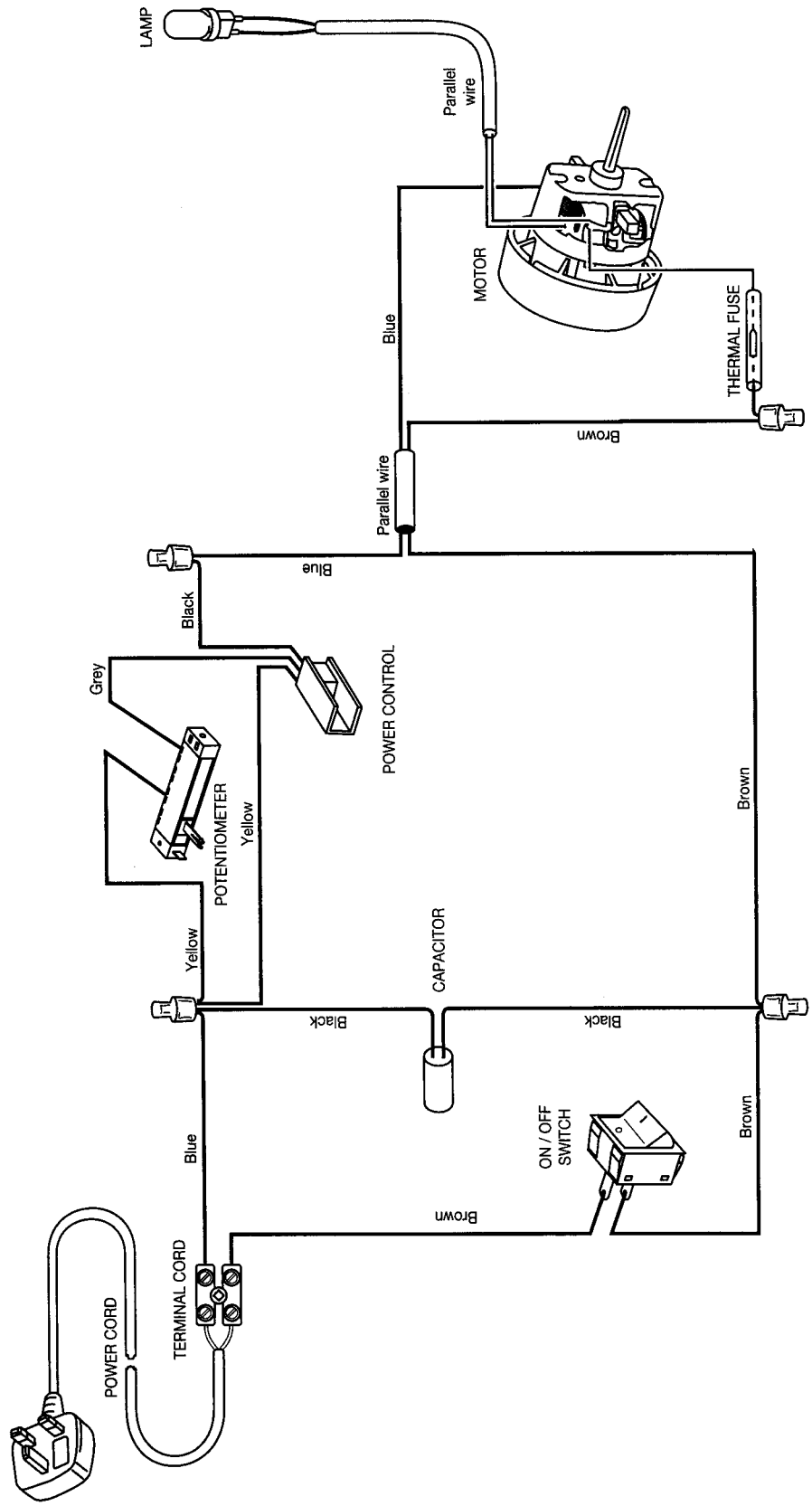


MC-E456UK / MC-E456

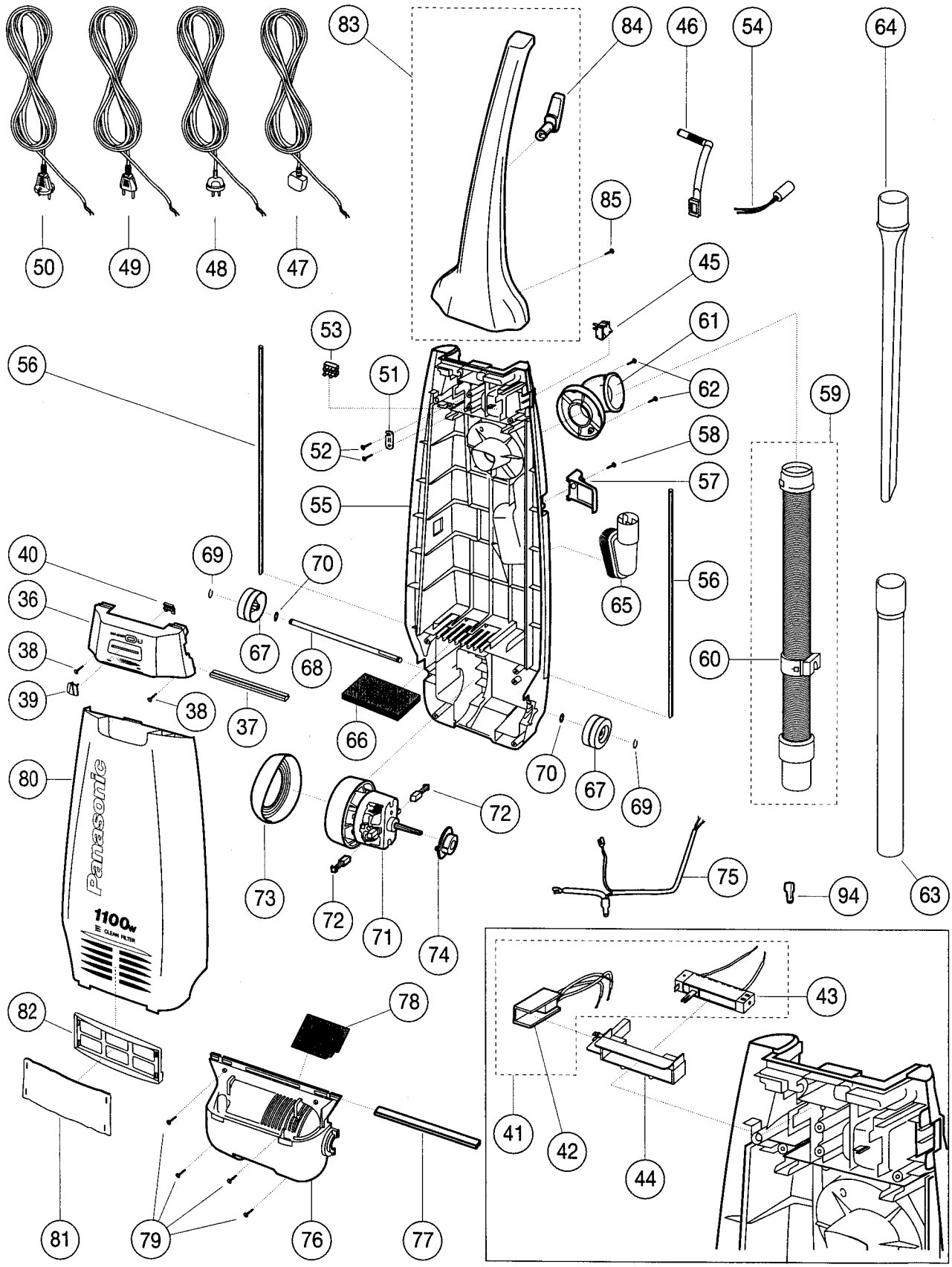


■ PICTORIAL WIRING DIAGRAM

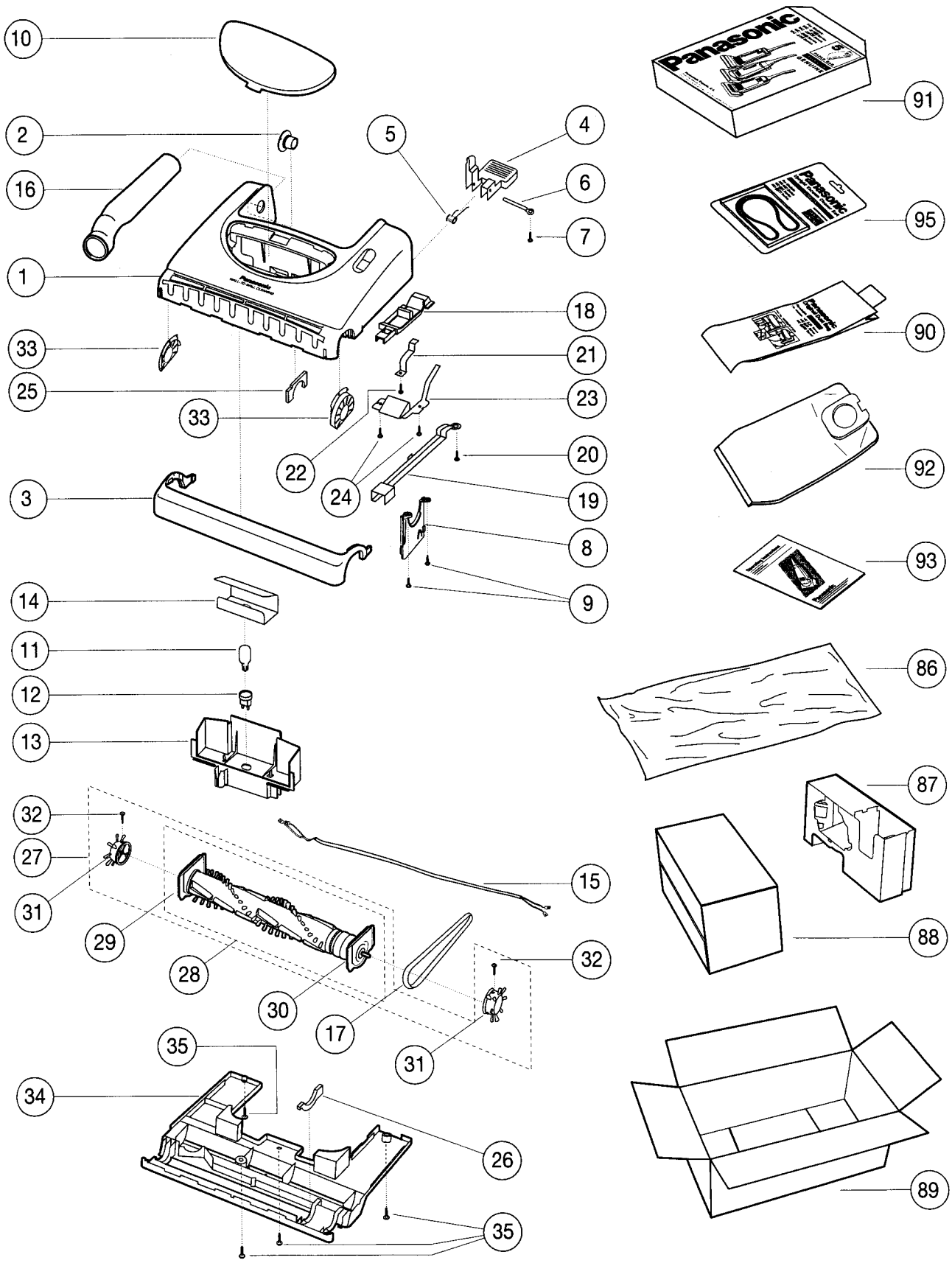
MC-E457UK / MC-E457



■ EXPLODED WIEW



■ EXPLODED WIEW



■ SPARE PARTS LIST

REF.No.	DESCRIPTION	PART No.	Pcs/ Set	MC-E455UK MC-E455	MC-E456UK MC-E456	MC-E457UK MC-E457	NOTES
1	Floor nozzle cover	AMC8A28G1022	1	•			
	Floor nozzle cover	AMC8A28G10A5	1		•		
	Floor nozzle cover	AMC8A28G1011	1			•	
2	Plastic shaft	AMC8C2791000	1	•	•	•	
3	Floor nozzle bumper	AMC8A33G1034	1	•	•	•	
4	Floor nozzle pedal	AMC8A2991034	1	•	•	•	
5	Pedal spring	AMC8A4791000	1	•	•	•	
6	Pedal shaft	AMC8A3091000	1	•	•	•	
7	Tapping screw	XTN4+18B	1	•	•	•	
8	Frame	AMC8A43G1022	1	•			
	Frame	AMC8A43G10A5	1		•		
	Frame	AMC8A43G1011	1			•	
9	Tapping screw	XTN4+18B	2	•	•	•	
10	View light	AMC8I14G1022	1	•			
	View light	AMC8I14G10A5	1		•		
	View light	AMC8I14G1001	1			•	
11	Lamp	AMC8D25B6100	1			•	
12	Lamp holder	AMC8D26G2000	1			•	
13	Lamp holder base	AMC8D28G2037	1			•	
14	Reflector	AMC8D27G2000	1			•	
15	Parallel lead wire A	AMC8D30G2000	1			•	
16	Suction pipe	AMC8H02G1034	1	•	•	•	
17	Belt	AMC8R15G2000	1	•	•	•	
18	Button selector	AMC8R31G1034	1	•	•	•	
19	Lever selector	AMC8R23G1000	1	•	•	•	
20	Tapping screw	AMC8C08G1000	1	•	•	•	
21	Spring button selector	AMC8R33G1100	1	•	•	•	
22	Tapping screw	XTN4+12B	1	•	•	•	
23	Fixing button selector	AMC8R48G1000	1	•	•	•	
24	Tapping screw	XTN4+12B	2	•	•	•	
25	Rotary felt A	AMC8R42B1000	1	•	•	•	
26	Rotary felt B	AMC8R43B1100	1	•	•	•	
27	Rotary brush ass'y	AMC8R98G1061	1	•	•	•	
28	Rotary brush	AMC8R88G1061	1	•	•	•	
29	Bearing support A	AMC8R12G1061	1	•	•	•	
30	Bearing support B	AMC8R13G1061	1	•	•	•	
31	Side brush B	AMC8R91G1061	2	•	•	•	
32	Tapping screw	XSN3+16E	2	•	•	•	
33	Side brush protector	AMC8R45B1134	2	•	•	•	
34	Base plate ass'y	AMC8AZ3G5034	1	•	•	•	
35	Tapping screw	XTN4+18B	4	•	•	•	
36	Switch cover	AMC8T37G5022	1	•			
	Switch cover	AMC8T37G60A5	1		•		
	Switch cover	AMC8T37G7011	1			•	
37	Switch cover packing	AMC8C24G1034	1	•	•	•	
38	Tapping screw	XTN4+18B	2	•	•	•	
39	Potentiometer button	AMC8E17G1034	1		•	•	
40	Button supplement	AMC8E2192032	1		•	•	
41	Power control ass'y	AMC8E91G1000	1		•	•	
42	Power control (with refrigerator)	AMC8EZ2G1000	1		•	•	
43	Sliding potentiometer	AMC8E1693000	1		•	•	
44	Potentiometer support	AMC8E59G1063	1		•	•	
45	Switch	AMC8E0191100	1	•	•	•	
46	Dust indicator	AMC8I99G1000	1	•	•	•	
47	Power cord	AMC8EZ1G1000	1	•	•	•	Applied to UK / Ireland.
48	Power cord	AMC8EZ391000	1	•	•	•	Applied to Australia / N. Zealand.
49	Power cord	AMC8E9893030	1	•	•	•	Applied to Italy / Switzerland, Portugal, CIS.
50	Power cord	AMC8E9793030	1	•	•	•	Applied to East & West European countries, except above.
51	Cord stopper	AMC8P1692100	1	•	•	•	
52	Fixing screw	AMC8C0891000	2	•	•	•	

■ SPARE PARTS LIST

REF.No.	DESCRIPTION	PART. No.	Pcs/ Set	MC-E455UK MC-E455	MC-E456UK MC-E456	MC-E457UK MC-E457	NOTES
53	Terminal block	AMC8E57G1000	1	•	•	•	
54	Capacitor	AMC8E15B1000	1	•	•	•	
55	Lower body	AMC8C02G1122	1	•			
	Lower body	AMC8C02G11A5	1		•		
	Lower body	AMC8C02G1111	1			•	
56	Dust seal	AMC8T0491034	2	•	•	•	
57	Extension wand support	AMC8C25G1034	1	•	•	•	
58	Tapping screw	XTN4+12B	1	•	•	•	
59	Detachable hose	AMC8AZ0B7034	1	•	•	•	
60	Hose unit support	AMC8C26B1134	1	•	•	•	
61	Suction inlet	AMC8T11G1034	1	•	•	•	
62	Tapping screw	XTN4+12B	2	•	•	•	
63	Extension wand	AMC8A1291034	1	•	•	•	
64	Crevice nozzle	AMC8A1391034	1	•	•	•	
65	Dusting brush	AMC8A97G1034	1	•	•	•	
66	Central filter	AMC8F0391100	1	•	•	•	
67	Wheel	AMC8R0191034	2	•	•	•	
68	Wheel shaft	AMC8A55G1100	1	•	•	•	
69	Fixing washer	XUB7000I	2	•	•	•	
70	Plain washer	XWG7000J	2	•	•	•	
71	Motor SDS-954M	AMC81S954M00	1	•	•		
	Motor SDS-1054MT	AMC81SA54MT0	1			•	
72	Carbon brush	AMC8130C9801	2	•	•	•	
73	Front motor support	AMC8E0891000	1	•	•	•	
74	Rear motor support	AMC8E09G5000	1	•	•	•	
75	Thermal fuse unit	AMC8EZ0G1000	1	•	•	•	
76	Upper body	AMC8C01G1022	1	•			
	Upper body	AMC8C01G10A5	1		•		
	Upper body	AMC8C01G1011	1			•	
77	Upper body seal	AMC8C0991034	1	•	•	•	
78	Rear filter	AMC8T0991300	1	•	•	•	
79	Tapping screw	XTN4+18B	4	•	•	•	
80	Dust cover	AMC8T01G5022	1	•			
	Dust cover	AMC8T01G60A5	1		•		
	Dust cover	AMC8T01G7011	1			•	
81	Electrostatic filter	AMC8F28G1000	1	•	•	•	
82	Electrostatic filter support	AMC8F1891034	1	•	•	•	
83	Handle unit	AMC8H99G1022	1	•			
	Handle unit	AMC8H99G10A5	1		•		
	Handle unit	AMC8H99G1011	1			•	
84	Hook A	AMC8H0791022	1	•			
	Hook A	AMC8H07910A5	1		•		
	Hook A	AMC8H0791011	1			•	
85	Handle screw	AMC8H10B1000	1	•	•	•	
86	Set cover	AMC8Z05G1000	1	•	•	•	
87	Cushion A	AMC8Z02G1000	1	•	•	•	
88	Cushion B	AMC8Z03G1000	1	•	•	•	
89	Carton box	AMC8Z01G5000	1	•			
	Carton box	AMC8Z01G6000	1		•		
	Carton box	AMC8Z01G7000	1			•	
90	Paper bag type U-2E	AMC8F01C1000	2	•	•	•	
91	Paper bag pack/Type U-2E	AMC8F96C1000	-	•	•	•	5/u. detachable bags.
92	Cloth dust bag	AMC8F99C0000	-	•	•	•	Optional.
93	Operating instructions	AMC8Z07G6090	1	•	•	•	Language: English, only UK / Ireland.
	Operating instructions	AMC8Z07G7090	1	•	•	•	Language: English, only Australia / N. Zealand.
	Operating instructions	AMC8Z07G6070	1	•	•	•	Languages: German, Italian, French.
	Operating instructions	AMC8Z07G6040	1	•	•	•	Languages: French, Dutch.
	Operating instructions	AMC8Z07G6010	1	•	•	•	Languages: Spanish, English.
94	Cable connector	AMC8E0671000	-	2	3	3	
95	Blister pack of 2/belts	AMC8S03G2000	-	•	•	•	

■ REPLACEMENT OF MAIN PARTS

IMPORTANT: Before replacing any part always DISCONNECT THE CLEANER FROM THE ELECTRICITY SUPPLY.

- **REPLACEMENT OF BELT**

1. Loosen 4 screws from the base plate and remove it. (Fig. 1)

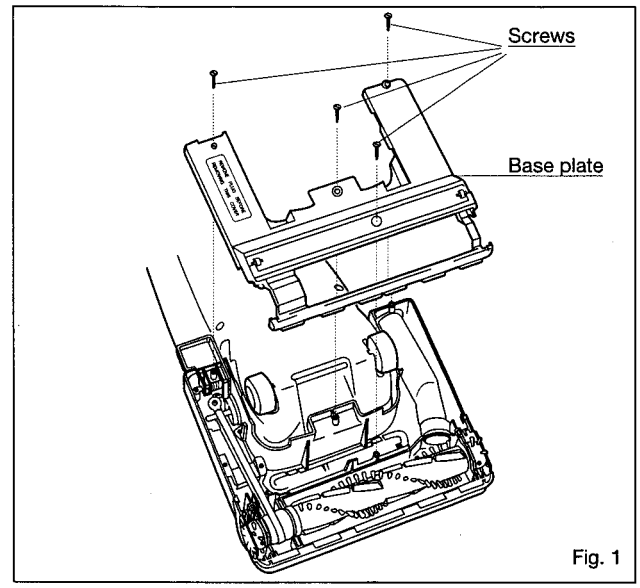


Fig. 1

2. Release the belt from the motor shaft and then lift up the rotary brush assembly to remove the belt. (Fig. 2)
3. Replace the belt with a new one and place it around the pulley and motor shaft.
4. Re-install the base plate and re-fasten the screws.

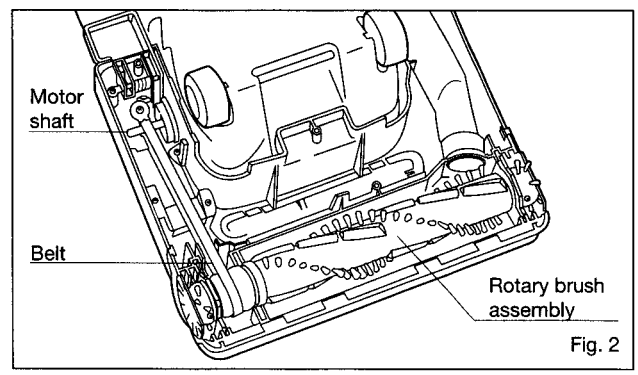


Fig. 2

- **REPLACEMENT OF ROTARY BRUSH ASSEMBLY**

1. Remove the rotary brush assembly as explained previously in paragraph " Replacement of belt" ,points 1-2.
2. Replace the rotary brush assembly, re-install the belt around the pulley and place the new rotary brush into its holding points. Then set back the belt to the motor shaft. (Fig. 3)
3. Re-install the base plate and re-fasten the screws.

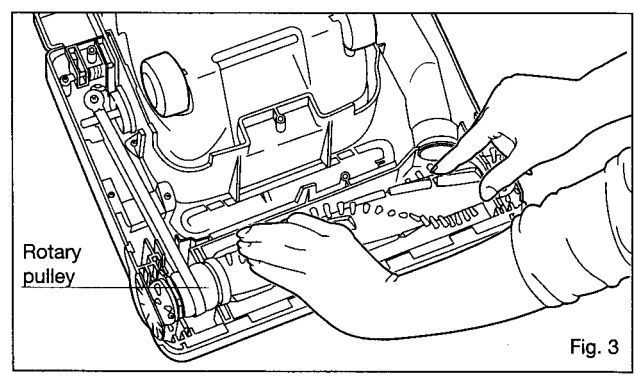


Fig. 3

- **REPLACEMENT OF BULB (MC-E457UK / MC-E457 only)**

1. Remove the base plate as explained previously in paragraph " Replacement of belt", point 1.
2. Release the fastening flange to lift up the head-light assembly. (Fig. 4)
3. Remove the bulb simply pulling it out and replace it with a new one. (Fig. 5)
4. Set back the head-light assembly .
5. Re-install the base plate and re-fasten the screws.

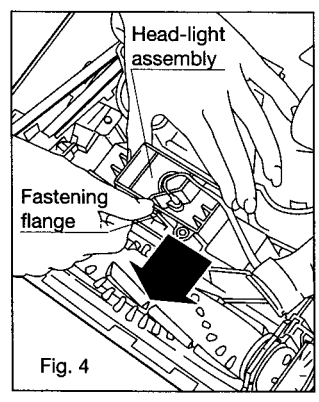


Fig. 4

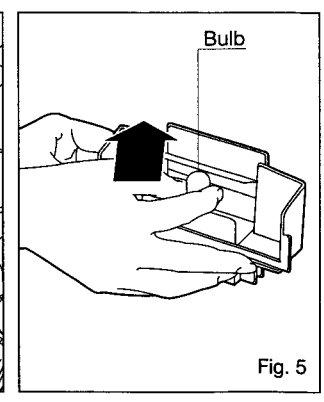


Fig. 5

■ REPLACEMENT OF MAIN PARTS

• REPLACEMENT OF BEATER BAR SELECTOR PARTS

1. Remove the base plate as explained previously in paragraph "Replacement of belt", point 1.
2. Release the belt from the motor shaft.
3. Loosen one screw from the lever selector, two from the fixing lever selector and other one from the spring button selector. (Fig. 6)
4. Change any damaged part and re-assemble the different parts in reverse order.

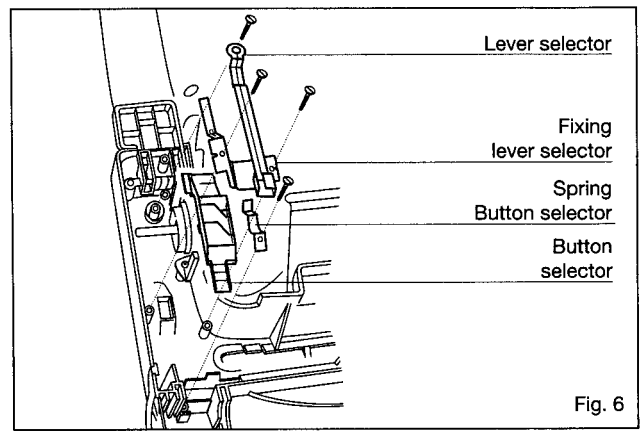


Fig. 6

• REPLACEMENT OF MOTOR / CARBON BRUSHES

(1) Motor

1. Remove the base plate as explained previously in paragraph "Replacement of belt", point 1.
2. Release the belt from the motor shaft.
3. Loosen one screw from the pedal shaft and other two from the frame. (Fig. 7)

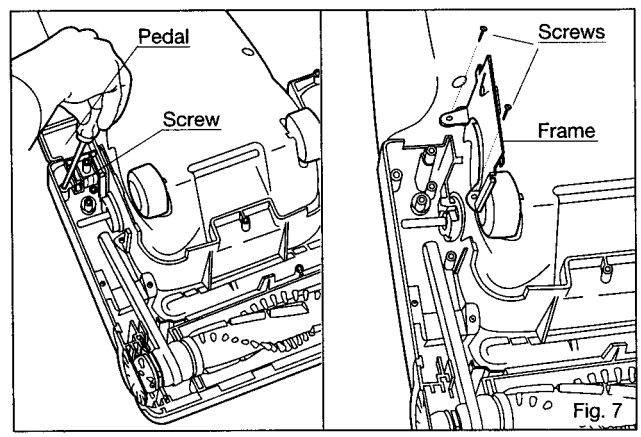


Fig. 7

4. Insert a flat-head screwdriver between nozzle housing and pry out the plastic shaft. Then remove the floor nozzle cover.(Fig. 8)
5. Turn the vacuum cleaner over and loosen four screws from the upper body to remove it. (Fig. 9)

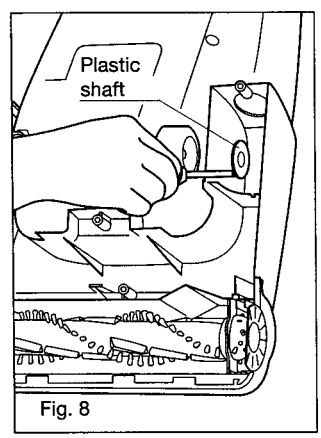


Fig. 8

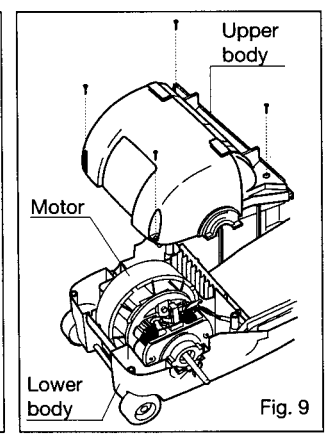


Fig. 9

6. Take out the motor and remove the two lead wires (provided with quick-terminals) from the carbon brush holder terminals. (Fig. 10)
7. Dismount the front / rear motor supports and replace the motor. (Fig. 11)
8. Assemble the front / rear motor supports in the new motor and connect the two lead wires to the carbon brush holder terminals.
9. Place the motor in the lower body and re-install the rest of the parts in the reverse order.

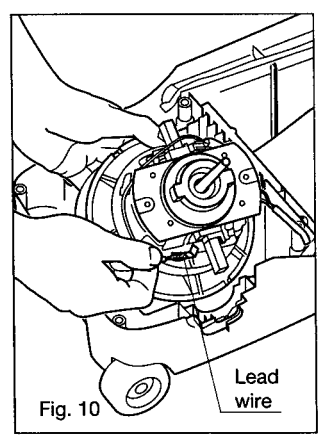


Fig. 10

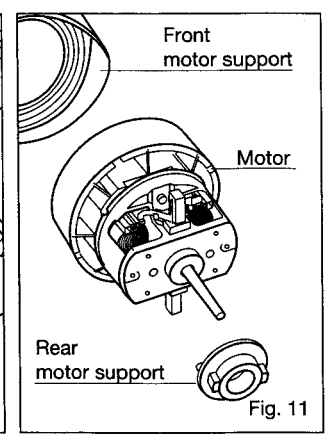


Fig. 11

■ REPLACEMENT OF MAIN PARTS

(2) Carbon brushes

1. Take out the motor as explained in paragraph "(1) Motor", points 1-6.
2. Bend the metal end of the carbon brush holder and take out the carbon brush. (Fig. 12)

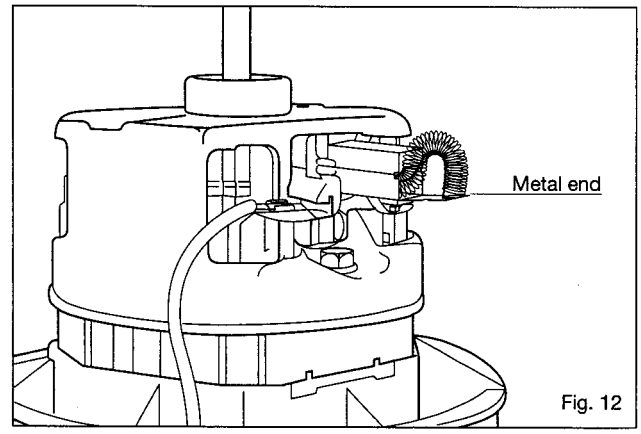


Fig. 12

3. Cut off the metal end of the carbon brush holder. (Fig. 13)

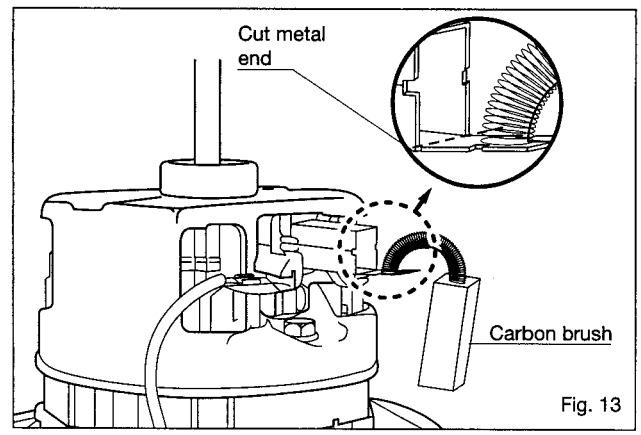


Fig. 13

4. Insert a new carbon brush into the brush holder and push the end of the carbon until the protruded pins of the brush holder fix into the holes of the metal ends. (Fig. 14)
5. Connect the two lead wires to the carbon brush holder terminals and place back the motor in the lower body.
6. Re-install the rest of the parts in the reverse order.

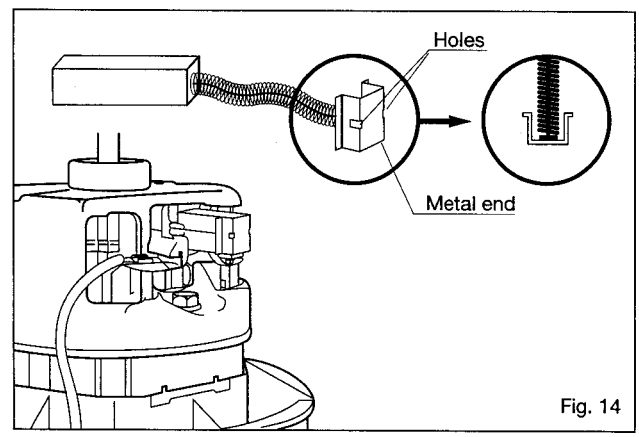


Fig. 14

• REPLACEMENT OF THERMAL-FUSE

1. Remove upper body as explained previously in paragraph (1) Motor, points 1-5.
2. Remove the connector from the lead wire and disconnect the thermal-fuse from the carbon brush holder terminal. (Fig. 15)
3. Replace the thermal-fuse and connect it according to the schematic diagram.
4. Re-install the rest of the parts in the reverse order.

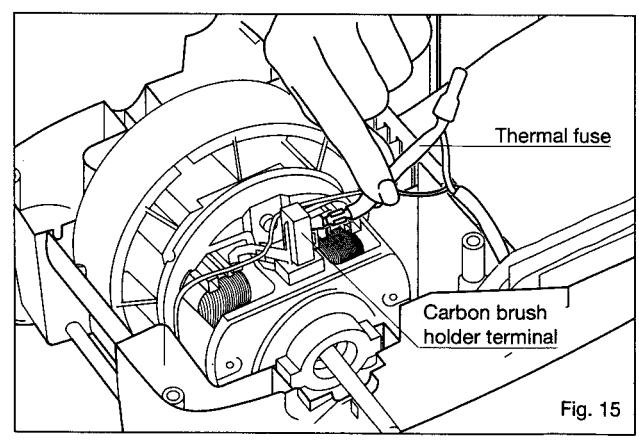


Fig. 15

■ REPLACEMENT OF MAIN PARTS

• REPLACEMENT OF POWER CORD

1. Loosen two screws from the switch cover and take it out. (Fig. 16)

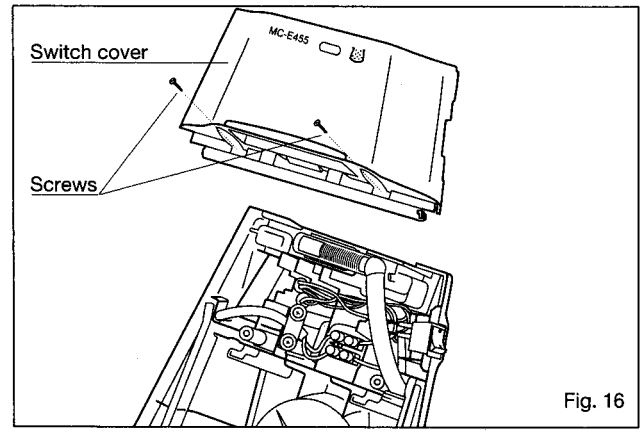


Fig. 16

2. Remove the two screws from the cord stopper and put it to one side. (Fig. 17)

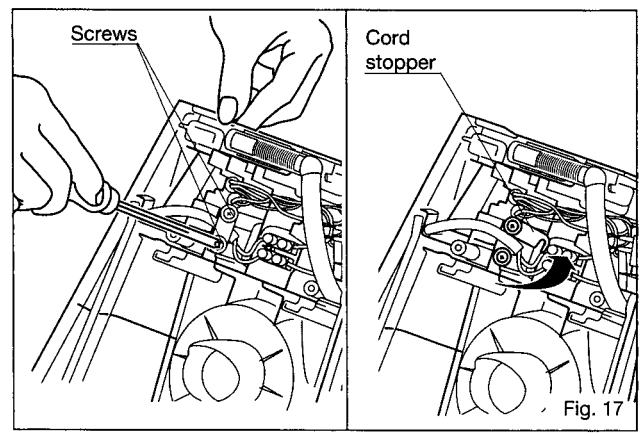


Fig. 17

3. Disconnect from the terminal block the blue and brown lead wires from the power cord. (Fig. 18)
4. Replace the power cord and fix the new one with cord stopper. Then connect the lead wires to the terminal block according to the schematic diagram.
5. Re-install the switch cover and re-fasten the two screws.

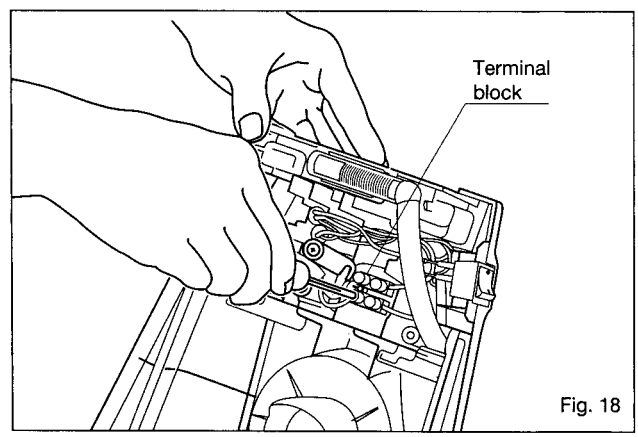


Fig. 18

• REPLACEMENT OF ON/OFF SWITCH

1. Remove the switch cover as explained previously in paragraph "Replacement of power cord ", point 1.
2. Disconnect the two lead wires (provided with quick-terminal) from the ON/OFF switch terminals. (Fig. 19)
3. Replace the ON/OFF switch and connect the two lead wires to its terminals according to the schematic diagram.

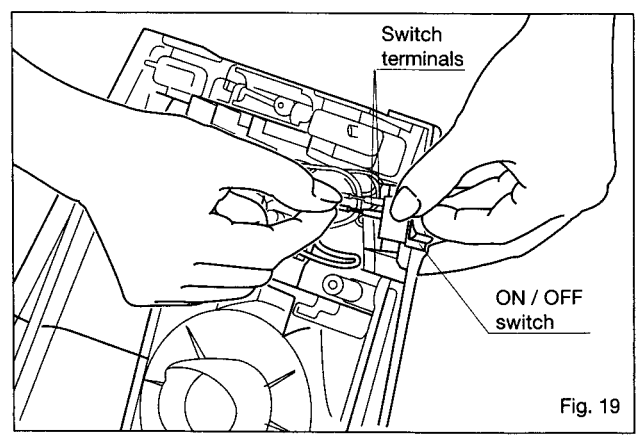


Fig. 19

■ REPLACEMENT OF MAIN PARTS

- **REPLACEMENT OF POWER CONTROL / POTENTIOMETER (MC-E456UK / MC-E456 / MC-E457UK / MC-E457 only)**

(1) Power control

1. Remove the switch cover as explained previously in paragraph "Replacement of power cord", point 1.
2. Take out the power control unit and release it from its support pressing the two claws. (Fig. 20)
3. Disconnect the yellow and black lead wires from the power control at the connected points.

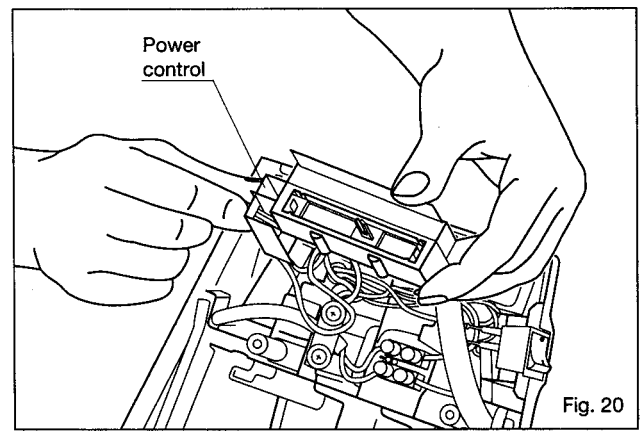


Fig. 20

4. Unsolder the grey lead wire that is connected to the potentiometer and replace the power control. (Fig. 21)
5. Install the new power control and connect the lead wires according to the schematic diagram.

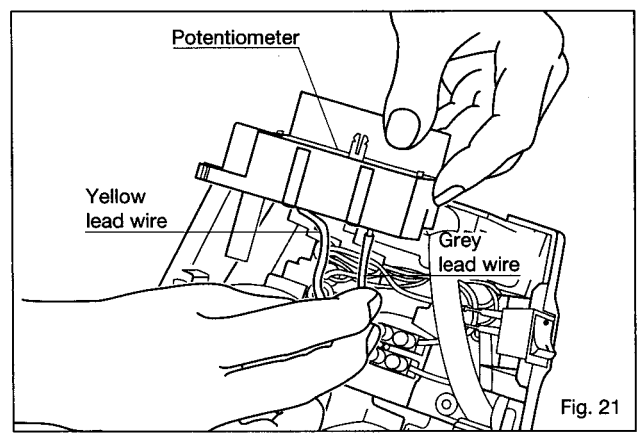


Fig. 21

(2) Potentiometer

1. Remove the switch cover as explained previously in paragraph "Replacement of power cord", point 1.
2. Take out power control unit and remove the potentiometer from its support. (Fig. 22)

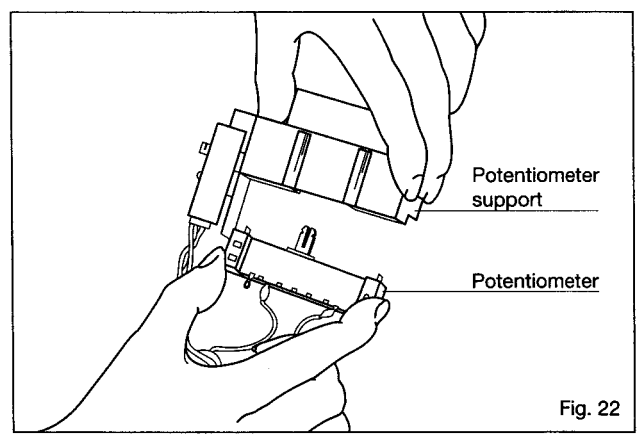


Fig. 22

3. Unsolder the yellow and grey lead wires from the potentiometer tabs. (Fig. 23)
4. Replace the potentiometer and solder the yellow and grey lead wires to the tabs.
   NOTE : Observe the correct position of the lead wires before soldering them.

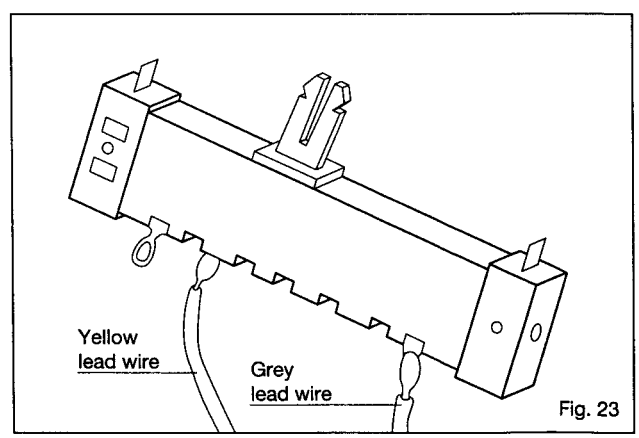


Fig. 23

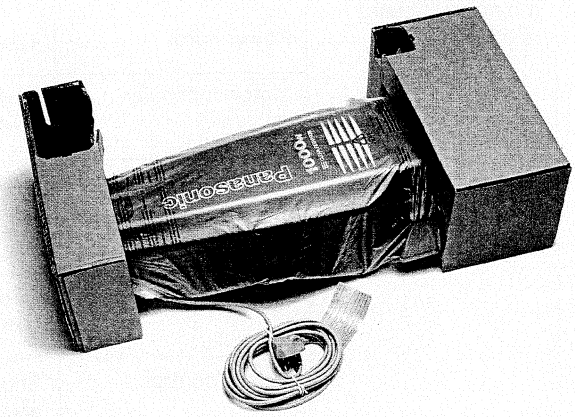
■ TROUBLE SHOOTING GUIDE

CONDITION	CHECKPOINT	METHOD OF INSPECTION	CAUSE / REMEDY
Motor fails to rotate (no noise is heard at all).	Plug (fuse-link)	Check fuse continuity.	If there is no continuity, replace it
	Power cord.	Check power cord continuity.	If there is no continuity, replace it.
	Motor continuity.	Check continuity between motor and lead wires.	If there is no continuity, replace it.
	Carbon brush is in contact with the conmutator.	Check if there is gap between carbon brush and conmutator.	If there is gap between carbon brush and conmutator, replace both carbon brushes.
	ON / OFF Switch.	Check continuity across the switch terminals.	If there is no continuity, replace the switch.
	*Power control.	Short-circuit yellow and black lead wires from the power control and connect the vacuum cleaner.	If the motor works, replace the power control.
	Thermal-fuse.	Check thermal-fuse continuity.	If there is no continuity, replace it.
Motor runs but no suction	Hose or suction pipe.	Check clogged in hose or suction pipe.	If there is a clog, remove it.
	Dust bag or central filter.	Check choked up in dust bag or central filter.	If the paper bag is choked up, replace it. If central filter is dirty clean or replace it.
Noise or vibration	Motor fan.	Check dust accumulated in motor fan. (It could happen if the v.c. has been used with a broken paper bag or without filter.	In this case, replace the motor and check filter condition. (never dismantle the motor fan).
	Carbon brushes.	Check uneven wear of carbon brushes.	Replace carbon brushes. (be sure to change both).
	Rotary brush (bearing support A-B).	Remove the rotary brush assembly and check if bearing support A-B is broken or deformed.	If bearing support A or B is defective, replace it.
	Rotary brush (bearings)	Place the rotary brush assembly on a flat surface and turn the rotary brush to check bearing noise or clearance.	If there is bearing noise or clearance, replace the rotary brush assembly.
Rotary brush does not rotate	Belt.	Remove base plate and check if the belt is broken or loose.	If the belt is broken, replace it. If loose, re-install it.
	Beater bar selector.	Remove base plate and check if the lever selector change position.	If the lever selector does not change position, replace it.
Rotary brush does not stop.	Pulleys.	Remove base plate and check if the two pulleys are blocked.	If the two pulleys are blocked, replace the rotary brush ass'y.
	Beater bar selector.	Remove base plate and check if the lever selector change position.	If the lever selector does not change position, replace it.

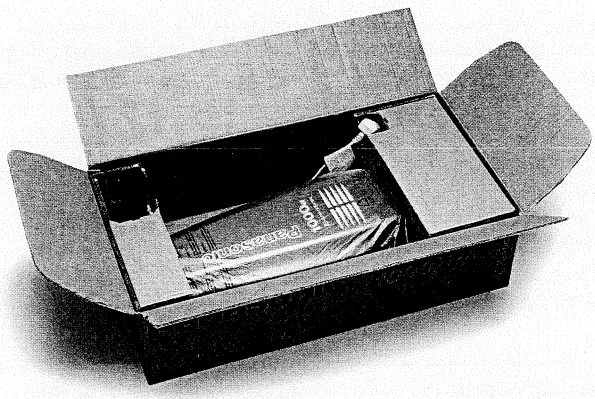
NOTE: (*) For MC-E456UK / MC-E456 / MC-E457UK / MC-E457, in case of irregular control of suction power, replace the power control.

■ PACKING INSTRUCTIONS

1

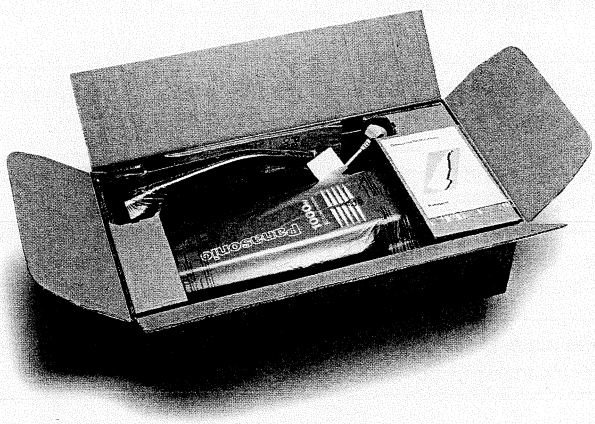


2



3

4



5

Service Manual

Vacuum Cleaner

Supplementary

DATE: May'97
NO. : SC-171S
SUBJECT : New model
MODEL No. : MC-E455-V (Green colour)
(Base model MC-E455)

Notice of new parts

The following list shows only specific spare parts for the indicated model.
For additional information, please refer to the original SERVICE MANUAL Ref.: Z32G6000, based on model MC-E455.

Ref. no	Description	Part no.		Pcs/set	Remarks
1	Floor nozzle cover	AMC8A28G1013		1	Green color
8	Frame	AMC8A43G1013		1	Green color
10	View light	AMC8I14G1013		1	Green color
36	Switch cover	AMC8T37G5013		1	Green color
55	Lower body	AMC8C02G1113		1	Green color
76	Upper body	AMC8C01G1013		1	Green color
80	Dust cover	AMC8T01G5013		1	Green color
83	Handle unit	AMC8H99G1013		1	Green color
84	Hook A	AMC8H0791013		1	Green color
89	Carton box	AMC8Z01G5100		1	Green color

NOTE: Please file this Supplementary with the SERVICE MANUAL copy Ref.: Z32G6000 for MC-E455K / MC-E455 Series.

Panasonic

Panasonic España, S.A.
División de Aspiradoras
Zona Industrial del Polígono de Celrà
17460 Celrà (Girona) España.